Russian Entomol. J. 17(3): 317–319

Two new species of chironomids (Diptera: Chironomidae) from China

Два новых вида хирономид (Diptera: Chironomidae) из Китая

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KEY WORDS: Diptera, Chironomidae, Diamesinae, Prodiamesinae, new species, China.

КЛЮЧЕВЫЕ СЛОВА: Diptera, Chironomidae, Diamesinae, Prodiamesinae, новые виды, Китай.

ABSTRACT. The males imagines of two new chironomid species *Monodiamesa tibetica* **sp.n.** (subfamily Prodiamesinae) and *Diamesa ampla* **sp.n.** (subfamily Diamesinae) from China are described and figured.

РЕЗЮМЕ. Приведены иллюстрированные описания имаго самцов двух новых для науки видов хирономид *Monodiamesa tibetica* **sp.n.** (подсем. Prodiamesinae) и *Diamesa ampla* **sp.n.** (подсем. Diamesinae) из Китая.

During the process of investigation chironomid material from some regions of China we found two new species — *Monodiamesa tibetica* **sp. n.** from Prodiamesinae and *Diamesa ampla* **sp.n.** from Diamesinae. Below we are describing these species by male imagines.

The morphological nomenclature follows Sæther [1980].

Holotypes and paratypes of the new species are deposited in the Department of Biology, Nankai University, Tianjin, China (BDN).

Monodiamesa tibetica Makarchenko, Wu et Wang **sp.n.**
Figs 1–2

MATERIAL. Holotype: ♂, China, Shannan Plat, Zetang, alt. 3700 m, ZIB Tibet Expedition, 2.X.1997, leg. T. Solhöy and J. Skartveit.

DESCRIPTION. **Male imago** (*n* = 1). Total length 5.6 mm. Total length/wing length 1.72. Coloration brown.

Head. Eyes without hair. Temporal setae including 8 orbitals, 6 postorbitals, 6 outer verticals and 6 frontals. Clypeus with 14 setae. Antenna with 13 flagellomeres and well-developed plume. Lengths (μm) of flagellomeres 1–13: 76 : 34 : 42 : 34 : 34 : 38 : 38 : 38 : 38 : 38 : 38 : 42 : 875. AR 1.69. Lengths (μm) of palpomeres 1–5: 42 : 72 : 163 : 152 : 228. Head width/palp length 0.97.

Thorax. Antepronotum with 5 lateral setae. Dorsocentrals 10, in one row. Prealars 4. Scutellum with 5 transverse biserial setae.

Wing. Length 3.23 mm, width 0.89 mm. Anal lobe well developed and with full fringed setae. Costal extension 68 μm long. Squama with 35 setae. R with 12 setae, R_1 with 5 setae, R_{4+5} without setae. RM/MCu 1.14.

Legs. BR_1 2.13, BR_2 2.13, BR_3 2.17. Front tibia with one spur 76 μm long, middle tibia with 2 spurs 49 μm and 46 μm long, hind tibia with 2 spurs 49 μm and 80 μm long, and with comb of 11 setae. Middle ta_1 with 2 pseudospurs 34 μm long, ta_2 with 2 pseudospurs 30 μm long; hind ta_1 with 2 pseudospurs 27 μm and 34 μm long. Length and proportions of legs as in Table 1.

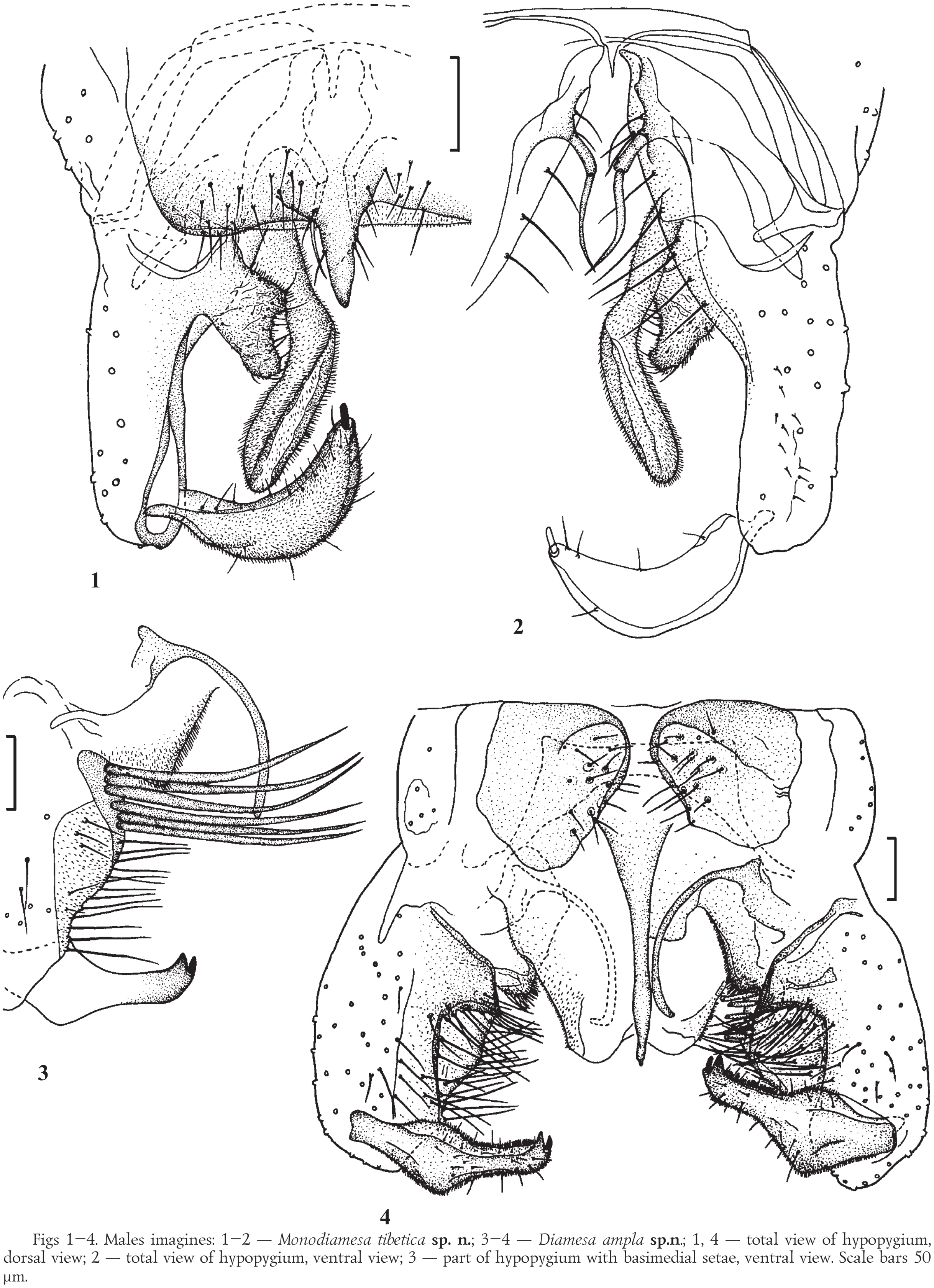
Hypopygium as in Figs 1–2. Tergite IX with anal point 57 μm long and 42 setae including 10 setae on anal point. Laterosternite IX with 26 setae. Transverse sternapodeme 141 μm long. Gonocoxite 277 μm long. Median volsella 80 μm long. Two setae based of median volsella 34 μm long. Inferior volsella slender, 171 μm long and 23 μm wide, covered by short fine setae and microtrichia. Superior volsella 84 μm long, 42 μm wide, covered by short setae. Gonostylus slightly curved, 148 μm long, distal end with 2 macroseta and a megaseta 11 μm long. HR 1.87, HV 3.75.

DIAGNOSIS. Male imagines of *Monodiamesa tibetica* **sp.n.** can be separated from all known species of the genus by

Table 1. Length (μm) and proportions of leg segments of *Monodiamesa tibetica* sp.n., male (n=1)
Таблица 1. Длина члеников ног (мкм) и их индексы самца *Monodiamesa tibetica* sp.n. (n=1)

P	fe	ti	ta_1	ta_2	ta_3	ta_4	ta_5	LR	SV	BV
P_1	1121	1406	1026	513	380	266	171	0.73	2.46	2.67
P_2	1121	1235	722	342	266	190	152	0.58	3.65	3.16
P_3	1254	1501	760	456	342	228	152	0.51	3.63	2.98

Printed in 2009.



Figs 1–4. Males imagines: 1–2 — *Monodiamesa tibetica* **sp. n.**; 3–4 — *Diamesa ampla* **sp.n.**; 1, 4 — total view of hypopygium, dorsal view; 2 — total view of hypopygium, ventral view; 3 — part of hypopygium with basimedial setae, ventral view. Scale bars 50 μm.

Рис. 1–4. Имаго, самцы: 1–2 — *Monodiamesa tibetica* **sp. n.**; 3–4 — *Diamesa ampla* **sp.n.**; 1, 4 — общий вид гипопигия, вид сверху; 2 — общий вид гипопигия, вид снизу; 3 — часть гипопигия с базимедиальными щетинками, вид снизу. Масштабные линейки 50 мкм.

shape of coarse anal point and gonostylus which curved. Median volsella spine-like, curved and situated on long pedestal. Near of median volsella in anterio-ventral part situated two setae. Inferior volsella in distal half slightly curved in outer position and about two times longer of superior volsella.

ETYMOLOGY. Referring to the type locality.

DISTRIBUTION. The species is known only from type locality – Tibet of China.

Diamesa ampla Makarchenko, Wu et Wang, **sp.n.**
Figs 3–4

MATERIAL. Holotype: ♂, China, Shennong Jia Nature Preserve Area, Hubei Province, 19.VII.1997, leg. Yuzhou Du. Paratypes: 2 ♂♂, the same data as holotype; 1 ♂, Zhonghe County, Dali District, Yunnan Province, 22.V.1996, leg. Xinhua Wang.

DESCRIPTION. **Male imago** (*n* = 3, except when otherwise stated). Total length 5.5–6.0 mm. Total length/ wing length 1.67–1.84. Coloration: head, antenna, thorax and abdomen brown. Legs brownish to dark brown.

Head. Eyes hairy. Temporal setae including 9–12 orbitals, 6–14 inner verticals and 8–10 outer verticals. Clypeus with 12–14 setae. Antenna with 13 flagellomeres and well-developed plume. Length of subapical seta of terminal flagellomere 32–42 µm. AR 1.11–1.22. Lengths (µm) of palpomeres 1–5: 42–61 : 72–106 : 129–163 : 152–190 : 217–266. The diameter of sensilla capitata of 3rd palpomere 11–15 µm. Head width/palp length 1.06–1.16.

Thorax. Antepronotum with 5–11 lateral setae. Dorsocentrals 7–8 in one row. Prealars 5–8. Scutellum with 24–30 setae.

Wing. Length 3.00–3.57 mm, width 0.93–1.06 mm. Anal lobe well developed and protrude forward, with full fringed setae. Costal extension 114–133 µm long. Squama with 36–45 setae. R with 16–22 setae, R_1 with 11–18 setae, R_{4+5} with 3–7 setae. RM/MCu 3.33–3.75.

Legs. BR_1 2.00–2.13, BR_2 2.11–2.12, BR_3 1.80–2.00. Front tibia with one spur 57–83 µm long, middle tibia with 2 spurs 57–68 µm and 57–72 µm, hind tibia with 2 spurs 68–76 µm and 74–103 µm long, and with comb of 15–17 setae. Front ta_1 with 2 pseudospurs, ta_2 with 2 pseudospurs and ta_3 with 1–2 pseudospurs; middle ta_1 with 13–18 pseudospurs, ta_2 with 4–8 pseudospurs and ta_3 with 2–4 pseudospurs; hind ta_1 with 12–13 pseudospurs, ta_2 with 7–10 pseudospurs and ta_3 with 3–6 pseudospurs. Pulvilli with few small spines. Length and proportions of legs as in Table 2.

Hypopygium as in Figs 3–4. Tergite IX with 37–41 setae 106–133 µm long and with anal point 160–205 µm long, which in apex with a small stylet. Laterosternite IX with 17–19 setae. Transverse sternapodeme 106–152 µm long. Aedeagal lobe weakly sclerotized, narrow, long and curved. Basimedial setal cluster present but with 5–7 setae in one row. Gonocoxite 293–304 µm long, in dorsal part with triangular projection covered by long setae. Gonostylus 152–167 µm long, distal end with a big tooth and a megaseta, and in basal part of outer margin with a triangular projection. HR 1.81–1.93.

Table 2. Length (µm) and proportions of leg segments of *Diamesa ampla* **sp.n.**, male (n=3)
Таблица 2. Длина члеников ног (мкм) и их индексы самца *Diamesa ampla* **sp.n.** (n=3)

P	f	t	ta_1	ta_2	ta_3	ta_4	ta_5	LR	SV	BV
P_1	1292–1520	1520–1938	1102–1444	456–684	323–437	114–127	152–159	0.73–0.78	2.33–2.55	4.09–4.47
P_2	1330–1786	1292–1748	722–969	323–456	228–285	111–114	152–159	0.55–0.56	3.52–3.65	4.09–4.47
P_3	1622–1938	1596–2109	1102–1444	532–722	342–418	127–152	152–159	0.68–0.77	2.55–3.00	3.64–3.87

DIAGNOSIS. Male imagines of *Diamesa ampla* **sp.n.** can be separated from all known species of the genus by shape of gonostylus which in basal part of outer margin with a triangular projection, subapical with triangular tooth and megaseta. Gonocoxite in dorsal part with triangular projection and covered by long setae. Basimedial setae long and situated in one row. Aedeagal lobe narrow, long and curved.

ETYMOLOGY. From Latin *ampla*, what is mean large.

DISTRIBUTION. The new species is known only from the type locality in Hubei and Yunnan Provinces of China.

ACKNOWLEDGMENTS . We are much grateful to T. Solhøy, J. Skartveit and Yuzhou Du for making material available to us. The investigation was partly supported and executed within the bounds of the cooperation program «Biodiversity of aquatic insects, namely of Chironomidae (Diptera) of the rivers and lakes of China» between Institute of Biology and Soil Sciences of Far Eastern Branch of Russian Academy of Sciences, and Life Science College of Nankai University, China.

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